

GCTATAAGGA TCACGGGGCC CAGTCGACGC TGAGCTCCTC TGCTACTCAG AGTTGCAACC TCAGCCTCGCT
 ATG GCT CCC AGC AGC CCC CGG CTG CCC GCA CTC CTG GTC CTG CTC GGG GCT CTG TPC CCA
 MET ALA PRO SER SER PRO ARG PRO ALA LEU PRO ALA LEU LEU VAL LEU LEU LEU LEU ALA LEU PHE PRO
 GGA CCT GGC AAT GCC CAG ACA TCT GTG TCC CCC TCA AAA GTC ATC CTG CCC CGG GGA GGC TCC GTG
 GLY PRO GLY ASN ALA GLN THR SER VAL SER PRO SER LYS VAL ILE LEU PRO ARG GLY GLY SER VAL
 CTG GTG ACA TGC AGC ACC TCC TGT GAC CAG CCC AAG TTG TTG GGC ATA GAG ACC CCG TTG CCT AAA
 LEU VAL THR CYS SER THR SER SER CYS ASP GLN PRO LYS LEU LEU GLY ILE GLU THR PRO LEU PRO LYS
 AAG GAG TTG CTC CTG CCT GGG AAC AAC CCG AAG GTG TAT GAA CTG AGC AAT GTG CAA GAA GAT AGC
 LYS GLU LEU LEU LEU PRO PRO GLY ASN ARG LYS VAL TYR GLU LEU SER ASN VAL GLN GLU ASP SER
 CAA CCA ATG TGC TAT TCA AAC TGC CCT GAT GGG CAG TCA ACA GCT AAA ACC TTC CTC ACC GTG TAC
 GLN PRO MET CYS TYR SER ASN CYS PRO ASP GLY GLN SER THR ALA LYS THR PHE LEU THR VAL TYR
 TGG ACT CCA GAA CGG GTG GAA CTG GCA CCC CTC CCC TCT TGG CAG CCA GTG GGC AAG AAC CTT ACC
 TRP THR PRO PRO GLU ARG VAL GLU LEU ALA PRO LEU PRO SER TRP GLN PRO VAL GLY LYS ASN LEU THR
 CTA CGC TGC CAG GTG GAG GGT GGG GCA CCC CGG GCC AAC CTC ACC GTG GTG CTC CTG GGG GAG
 LEU ARG CYS GLN VAL GLU GLY GLY ALA PRO ARG ALA ASN LEU THR VAL LEU LEU ARG GLY GLU
 AAG GAG CTG AAA CGG GAG CCA GCT GTG GGT GAG CCC GCT GAG GTC ACG ACC ACC GTG CTG GTG AGG
 LYS GLU LEU LYS ARG GLU PRO ALA VAL GLY GLU PRO ALA THR THR THR VAL LEU VAL ARG
 AGA GAT CAC CAT GGA GCC AAT TTC TCG TGC CGC ACT GAA CTG GAC CTG CGG CCC CAA GGG CTG GAG
 ARG ASP HIS HIS GLY ALA ASN PHE SER CYS ARG THR GLU LEU ASP LEU ARG PRO GIN GLY LEU GLU

FIG. 1A

CTG TTT GAG AAC ACC TCG GCC CCC TAC CAG CTC CAG ACC TTT GTC CTG CCA GCG ACT CCC CCA CAA	LEU PHE GLU ASN THR SER ALA PRO TYR GLN LEU GLN THR PHE VAL LEU PRO ALA THR PRO PRO GLN
CTT GTC AGC CCC CGG GTC CTA GAG GTG GAC ACG CAG GGG ACC GTG GTC TGT TCC CTG GAC GGG CTG	LEU VAL SER PRO ARG VAL LEU GLU VAL ASP THR GLN GLY THR VAL VAL CYS SER LEU ASP GLY LEU
TTC CCA GTC TCG GAG GCC CAG GTC CAC CTG GCA CTG GGG GAC CAG AGG TTG AAC CCC ACA GTC ACC	PHE PRO VAL SER GLU ALA GLN VAL HIS LEU ALA LEU GLY ASP GLN ARG LEU ASN PRO THR VAL THR
TAT GGC AAC GAC TCC TTC TCG GCC AAG GCC TCA GTC AGT GTG ACC GCA GAG GAC GAG GGC ACC CAG	TYR GLY ASN ASP SER PHE SER ALA LYS ALA SER VAL SER VAL THR ALA GLU ASP GLU GLY THR GLN
CGG CTG ACG TGT GCA GTA ATA CTG GGG AAC CAG AGC CAG GAG ACA CTG CAG ACA GTG ACC ATC TAC	ARG LEU THR CYS ALA VAL ILE LEU LEU GLY ASN GLN SER GLN GLU THR LEU GLN THR VAL THR ILE TYR
AGC TTT CCG GCG CCC AAC GTG ATT CTG ACG AAG CCA GAG GTC TCA GAA GGG ACC GAG GTG ACA GTG	SER PHE PRO ALA PRO ASN VAL ILE LEU THR LYS PRO GLU VAL SER GLU GLY THR GLU VAL THR VAL
AAG TGT GAG GCC CAC CCT AGA GCC AAG GTG ACG CTG AAT GGG GTT CCA GCC CAG CCA CTG GGC CCG	LYS CYS GLU ALA HIS PRO ARG ALA LYS VAL THR LEU ASN GLY VAL PRO ALA GLN PRO LEU GLY PRO
AGG GCC CAG CTC CTG CTG AAG GCC ACC CCA GAG GAC AAC GGG CGC AGC TTC TCC TGC TCT GCA ACC	ARG ALA GLN LEU LEU LEU LYS ALA THR PRO GLU ASP ASN GLY ARG SER PHE SER CYS SER ALA THR
CTG GAG GTG GCC GGC CAG CTT ATA CAC AAG AAC TGG ACG TGG CCA GAA AAT TCC CAG CAG ACT CCA ATG	LEU GLU VAL ALA GLY GLN LEU ILE HIS LYS ASN GLN THR ARG GLU LEU ARG VAL LEU TYR GLY PRO
CGA CTG GAC GAG AGG GAT TGT CCG GGA AAC TGG ACG TGG CCA GAA AAT TCC CAG CAG ACT CCA ATG	ARG LEU ASP GLU ARG ASP CYS PRO GLY ASN TRP THR TRP PRO GLU ASN SER GLN GLN THR PRO MET
TGC CAG GCT TGG GGG AAC CCA TTG CCC GAG CTC AAG TGT CTA AAG GAT GGC ACT TTC CCA CTG CCC	CYS GLN ALA TRP GLY ASN PRO GLU LEU LYS CYS LEU LYS ASP GLY THR PHE PRO LEU PRO

FIG. 1B

ATC GGG GAA TCA GTG ACT GTC ACT CGA GAT CTT GAG GGC ACC TAC CTC TGT CGG GCC AGG AGC ACT
ILE GLY GLU SER VAL THR VAL THR ARG ASP LEU GLU GLY THR TYR LEU CYS ARG ALA ARG SER THR

CAA GGG GAG GTC ACC CGC GAG GTG ACC GTG AAT GTG CTC TCC CCC CGG TAT GAG ATT GTC ATC ATC
GLN GLY GLU VAL THR ARG GLU VAL THR VAL ASH VAL LEU SER PRO ARG TYR GLU ILE VAL ILE ILE

ACT GTG GTA GCA GCC GCA GTC ATA ATG GGC ACT GCA GGC CTC AGC ACC TAC CTC TAT AAC CGC CAG
THR VAL VAL ALA ALA ALA VAL ILE MET GLY THR AIA GLY LEU SER THR TYR LEU TYR ASH ARG GLN

CGG AAG ATC AAG AAA TAC AGA CTA CAA CAG GCC CAA AAA GGG ACC CCC ATG AAA CCG AAC ACA CAA
ARG LYS ILE LYS LYS TYR ARG LEU GLN ALA GLN LYS GLY THR PRO MET LYS PRO ASH THR GLN

GCC ACG CCT CCC TGA ACCTATCCCG GGACAGGGCC TCTTCCTCGG CCTTCCCATTA TTGGTGGCAG TGGTGCCACA
AIA THR PRO PRO **

CTGAACAGAG TGAAGACAT ATGCCATGCA GCTACACCTA CCGGCCCTGG GACGCCGGAG GACAGGGCAT TGTCCCTCAGT

CAGATACAAC AGCATTTGGG GCCATGGTAC CTGCACACCT AAACACACTAG GCCACGCATC TGATCTGTAG TCACATGACT

AAGCCAAGAG GAAGGAGCAA GACTCAAGAC ATGATTGATG GATGTTAAAG TCTAGCCTGA TGAGAGGGGA AGTGGTGGGG

GAGACATAGC CCCACCATGA GGACATACAA CTGGGAAATA CTGAAACTTG CTGCCTATTG GGTATGCTGA GGCCACACAGA

CTTACAGAAG AAGTGGCCCT CCATAGACAT GTGTAGCATC AAACACAAA GGCCACACT TCCTGACGGA TGCCAGCTTG

GGCACTGCTG TCTACTGACC CCAACCCTTG ATGATATGTA TTTATTCAAT TGTATTTTA CCAGCTATTT ATTGAGTGTC

TTTTATGTAG GCTAAATGAA CATAGGTCTC TGGCCTCACC GAGCTCCCAG TCCATGTCAC ATTCAAGGTC ACCAGGTACA

GTTGTACAGG TTGTACACTG CAGGAGAGTG CCTGGCAAAA AGATCAAAATG GGGCTGGGAC TTCTCATTTG CCAACCTGCC

TTTCCCCAGA AGGAGTGATT TTTCTATCGG CACAAAAGCA CTATATGGAC TGGTAATGGT TCACAGGTTT AGAGATTACC

FIG. 1C

CAGTGAGGCC TTATTCCTCC CTCCCCCCA AAC TGACAC CTTGTAGC CACCTCCCA CCCACATACA TTCTGCCAG
TGTTACAATG AACTCAGCG GTCATGTCTG GACATGAGTG CCCAGGAAT ATGCCAAGC TATGCCTTGT CCTCTGTCC
TGTTTGCATT TCACTGGGAG CTTGCACAT TGCAGTCCA GTTCCTGCA GTGCAAGC TCCTGCCAAGC AGTGGGGAAG
GGGGCCAAGG TATTGGAGG CTCCTCCCA GCTTTGGAAG GTCATCCGC GTGTGTGTGT GTGTGTATGT GTAGACAAGC
TCTCGCTCTG TCACCCAGGC TGGAGTGCAG TGGTGCAATC ATGTTCACT GCAGTCTGA CCTTTGGGC TCAAGTGATC
CTCCCACTC AGCCTCCTGA GTAGCTGGA CCATAGGCTC ACAACACCAC ACCTGGCAA TTTGATTTT TTTTTTTTT
TCAGAGACCG GGTCTCGCAA CATTGCCCAG ACTTCCTTG TGTAGTTAA TAAAGCTTC TCAACTGCCA AAAAAAAAAA

AAAAAA

FIG. 1D

FIG. 2A

TTCACATCAA AACTCCTATA CTGACCTGAG ACAGAGGCAG CAGTGATACC CACCTGAGAG ATCCTGTGTT TGA

ACAACTG CTTCCCAAAA CGGAAGTAT TTCAAGCCTA AACCTTTGGG TCAAAAGAAC TCTTGAAGTC ATG ATT
met ile

GCT TCA CAG TTT CTC TCA GCT CTC ACT TTG GTG CTT CTC ATT AAA GAG AGT GGA GCC TGG
ala ser gln phe leu ser ala leu thr leu val leu leu ile lys glu ser gly ala trp

TCT TAC AAC ACC TCC ACG GAA GCT ATG ACT TAT GAT GAG GCC AGT GCT TAT TGT CAG CAA
ser tyr asn thr ser thr glu ala met thr tyr asp glu ala ser ala tyr cys gln gln

AGG TAC ACA CAC CTG GTT GCA ATT CAA AAC AAA GAA GAG ATT GAG TAC CTA AAC TCC ATA
arg tyr thr his leu val ala ile gln asn lys glu glu ile glu tyr leu asn ser ile

TTG AGC TAT TCA CCA AGT TAT TAC TGG ATT GGA ATC AGA AAA GTC AAC AAT GTG TGG GTC
leu ser tyr ser pro ser tyr tyr trp ile gly ile arg lys val asn val trp val

TGG GTA GGA ACC CAG AAA CCT CTG ACA GAA GAA GCC AAG AAC TGG GCT CCA GGT GAA CCC
trp val gly thr gln lys pro leu thr glu glu ala lys asn trp ala pro gly glu pro

AAC AAT AGG CAA AAA GAT GAG GAC TGC GTG GAG ATC TAC ATC AAG AGA GAA AAA GAT GTG
asn asn arg gln lys asp glu asp cys val glu ile tyr ile lys arg glu lys asp val

GCC ATG TGG AAT GAT GAG AGG TGC AGC AAG AAG AAG CTT GCC CTA TGC TAC ACA GCT GCC
gly met trp asn asp glu arg cys ser lys lys lys leu ala leu cys tyr thr ala ala

TGT ACC AAT ACA TCC TGC AGT GGC CAC GGT GAA TGT GTA GAG ACC ATC AAT AAT TAC ACT
cys thr asn thr ser cys ser gly his gly glu cys val glu thr ile asn asn tyr thr

TGC AAG TGT GAC CCT GGC TTC AGT GGA CTC AAG TGT GAG CAA ATT GTG AAC TGT ACA GCC
cys lys cys asp pro gly phe ser gly leu lys cys glu gln ile val asn cys thr ala

CTG GAA TCC CCT GAG CAT GGA AGC CTG GTT TGC AGT CAC CCA CTG GGA AAC TTC AGC TAC
 leu glu ser pro glu his gly ser leu val cys ser his pro leu gly asn phe ser tyr

 AAT TCT TCC TGC TCT ATC ACC TGT CAT AGG GGT TAC CTG CCA AGC ACC ATG GAG ACC ATG
 asn ser ser cys ser ile ser cys asp arg gly tyr leu pro ser ser met glu thr met

 CAG TGT ATG TCC TCT GGA TCC ACT GGT CCT ATT CCA GGC TTT AAT GTG GTT GAG TGT
 gln cys met ser ser gly glu trp ser ala pro ile pro ala cys asn val val glu cys

 GAT GCT GTC ACA AAT CCA GCC AAT GGG TTC GTG GAA TGT TTC CAA AAC CCT GGA AGC TTC
 asp ala val thr asn pro ala asn gly phe val glu cys phe gln asn pro gly ser phe

 CCA TCG AAC ACA ACC TGT ACA TTT GAC TGT GAA GAA GGA TTTT GAA CTA ATG GGA GCC CAG
 pro trp asn thr thr cys thr phe asp cys glu glu gly phe glu leu met gly ala gln

 AGC CTT CAG TGT ACC TCA TCT GGG AAT TGG GAC AAC GAG AAG CCA AGC TGT AAA CCT GTG
 ser leu gln cys thr ser ser gly asn trp asp asn glu lys pro thr cys lys ala val

 ACA TGC AGG GCC GTC CGC CAG CCT CAG AAT GGC TCT GTG AGG TCC AGC CAT TCC CCT GCT
 thr cys arg ala val arg gln pro gln asn gly ser val arg cys ser his ser pro ala

 CGA GAG TTC ACC TTC AAA TCA TCC TGC AAC TTC ACC TGT GAG GAA GGC TTC ATG TTG CAG
 gly glu phe thr phe lys ser ser cys asn phe thr cys glu glu gly phe met leu gln

 GGA CCA GCC CAG GTT GAA TGC ACC ACT CAA GGG CAG TGG ACA CAG CAA ATC CCA GTT TGT
 gly pro ala gln val glu cys thr thr gln gly gln trp thr gln gln ile pro val cys

 GAA GCT TTC CAG TGC ACA GCC TTG TCC AAC CCC GAG CGA GGC TAC ATG AAT TGT CTT CCT
 glu ala phe gln cys thr ala leu ser asn pro glu arg gly tyr met asn cys leu pro

FIG. 2B

AGT GCT TCT GGC AGT TTC CGT TAT GGG TCC AGC TGT GAG TTC TGT GAG CAG GGT TTT
 ser ala ser gly ser phe arg arg tyr gly ser ser ser cys glu phe ser cys glu gln gly phe

 GTG TTG AAG GGA TCC AAA AGG CTC CAA TGT GGC CCC ACA CGG GAG TGG GAC AAC GAG AAG
 val leu lys gly ser lys arg leu gln cys gly pro thr gly glu trp asp asn glu lys

 CCC ACA TGT GAA GCT GTG AGA TGC GAT GAT GTC CAC CAG CCC CCG AAG GGT TTG GTG AAG
 pro thr cys glu ala val arg cys asp ala val his gln pro pro lys gly leu val arg

 TGT GCT CAT TCC CCT AAT GGA GAA TTC ACC TAC AAG TCC TCT TGT GGC TTC AGC TGT GAG
 cys ala his ser pro ile gly glu phe thr tyr lys ser ser cys ala phe ser cys glu

 GAG GGA TTT GAA TTA TAT GGA TCA ACT CAA CTT GAG TGC ACA TCT CAG GCA CAA TGG ACA
 glu gly phe glu leu tyr gly ser thr gln leu glu cys thr ser gln gly gln trp thr

 GAA GAG GTT CCT TCC TGC CAA GTG GTA AAA TGT TCA AGC CTC GCA GTT CCG GGA AAG ATC
 glu glu val pro ser cys gln val val lys cys ser ser leu ala val pro gly lys ile

 AAC ATG AGC TGC AGT GGG GAG CCC GTG TTT GGC ACT GTG TGC AAG TTC GCC TST CCT GAA
 asn met ser cys ser gly glu pro val phe gly thr val cys lys phe ala cys pro glu

 GGA TGG ACG CTC AAT GGC TCT GCA GCT CGG ACA TGT GGA GCC ACA GGA CAC TGG TCT GGC
 gly trp thr leu asn gly ser ala ala arg thr cys gly ala thr gly his trp ser gly

 CTG CTA CCT ACC TGT GAA GCT CCC ACT GAG TCC AAC ATT CCC TTG GTA GCT GGA CTT TCT
 leu leu pro thr cys glu ala pro thr glu ser asn ile pro leu val ala gly leu ser

 GCT GCT GGA CTC TCC CTC CTG ACA TTA GCA CCA TTT CTC CTC TGG CTT CGG AAA TGC TTA
 ala ala gly leu ser leu leu thr leu ala pro phe leu leu trp leu arg lys cys leu

 CGG AAA GCA AAG AAA TTT GTT CCT GCC AGC ACC TGC CAA AGC CTT GAA TCA GAC GGA AGC
 arg lys ala lys lys phe val pro ala ser ser cys gln ser leu glu ser asp gly ser

FIG. 2C

TAC CAA AAG CTT TCT TAC ATC CTT TAA GTTCAAA AGAATCAGAA ACAGGTGCAT CTGGGAACT A
tyr gln lys pro ser tyr ile leu ***

GAGGGATAC ACTGTAAGTTA ACAGAGACATAG ATAAGCTCTCC TGGGCTCTCT GGGCCTTCTT GCGTACTATG CCAG
ATGCTT TTATGCTCTGA AACCGCAACA CCGATCAGCA CTTCAAATAGA TCAAACTCCA GCAGGCAAGG ACGGGCT
TCA ACTGAAAAGA CTTCACTGCTC CTTTCTCTAC TCTCAGGATC AAGAAAGTCT TGGCTAANTGA AGGGAAAGGA
TATTTTCTTC CACCCAAAGG TGAAGAGAGCC AAGACTCTGA AATCTCAGAA TTCTTTTCTT AACTCTCCCT TG
CTGCTGT AAAATCTTGG CACAGAAACA CAATATTTTG TGGCTTCTT TCTTTTGGCC TTCACAGTGT TTCGA
CACTT GATTACACAG TTGCTGTCTAT AAGAAAGAAT AATAATPATC CAGAGTTTAG AGGAAAAAAA TGAATAAA
AA TATPATAACT TAAAAAATG ACAGATGTTG AATGCCCA CA GCAAAATGCA TGGAGGGTTG TTAATGGTGC
AAATCCTACT GAATGCTCTG TCGGAGGTT ACTATGCACA ATTTAATCAC TTTCATCCCT ATGGGATTCA GTG
CTTCTTA AAGAGTTCTT AAGGATTGTG ATATTTTAC TTGCATTGAA TATATTATAA TCTTCCATAC TTCTTC
ATTC AATACAAGTG TGGTAGGGAC TTAAAAAACT TGTAATGCT GTCAACTATG ATATGGTAAA AGTTACTTA
T TCTAGATTAC CCGCTCATTG TTTATTAACA AATTATGTTA CATCTGTTT AAATTATTT CAAAAAGGGA A
ACTATTGTC CCGTAGCAAG GCATGATGTT AACCAGAATA AAGTTCTGAG TGTFTTACT ACAGTTGTTT TTTG
AAAAA TGGTAGAATT GCAGAGTAAA AACTGAATGG AAGGTTGTA TATTGTCAGA TATTTTTC GAAATAT
GTG GTTTCCAGCA TGAAAAACTT CCAAGAGGCC AAACGTTTG AACTAATAAA AGCATAAATG CAAACACACA
AAGGTATAAT TTTATGAAG TCTTTGTG AAGAATAAC AGAAGATGG ATGTGCTTG CATTCCTACA AA
GATGTTG TCAGATCTGA TTGTAAACA TAATCTTCT ATATTATGA AGATTTTAAA TTCACAATAG AAAC

FIG. 2D

CACCA TGTAAGAAGAG TCATCTGGTA GATTTTTAAAC GAATGAAGAT GTCTAATAGT TATTCCTAT TTGTTTTC
TT CTGTATGTTA GGCTGCTCTG GAAGACAGGA ATGCTGTGT GAGCAGCAT TTATGTTTAT TTATAAGCAG
ATTTRACAAAT TCCAAAGGAA TCTCCAGTTT TCAGTTGATC ACTGGCAATG AAAAAATPCTC AGTCAGTAAT TGC
CAAGGT GCTCTAGCCT TGAGGAGTGT GAGAAATCAAA ACTCTCCTAC ACTTCATTTA ACTTAGCATG TGTGTA
AAAA AAAAGTTTCA GAGAACTTCT GGCTGAAACAC TGGCAACGAC AAAGCCAAAC GTCAAAACAG AGATGTGAT
A AGGATCAGAA CAGCAGAGGT TCTTTTAAAG GGCACAGAAA ACTCTGGGA ATAAGAGAGA ACAACTACTG T
GATCAGGCT ATGTATGGAA TACAGTGTTA TTTTCTTTGA AATTGTTAA GTGTTCGTAA TATTTATGTA AACT
GCATTA GAAATTAGCT GTGTGAAATA CCASTGTGGT TTGTGTTGA GTTTTATTGA GAATT'TTAAA TTATAAC
TTA AAATATTTTA TAATTTTAA AGTATATATT TATTTAAGCT TATGTCAGAC CTATTTGACA TAACACTATA
AAGGTTGACA ATAAATGTGC TTATGTTT

FIG. 2E

FIG. 3A

CCGGCCCTCAC TGGCTTTCAGG AGCTGAAATAC CCTCCACAGGC ACACACAGGT GGGACACAAA TAAGGGTTT GGA
 ACCACCA TTTTCTCATC ACCACAGCAA CTTAAG ATG CCT GGG AAG ATG GTC GTG ATC CTT GGA GCC
 met pro gly lys met val ile leu gly ala
 TCA AAT ATA CTT TGG ATA ATG TTT GCA GCT TCT CAA GCT TTT AAA ATC GAG ACC ACC CCA
 ser asn ile leu trp ile met phe ala ala ser gln ala phe lys ile glu thr thr pro
 GAA TCT AGA TAT CTT GCT CAG ATT GGT GAC TCC GTC TCA TTG ACT TGC AGC ACC ACA GGC
 glu ser arg tyr leu ala gln ile gly asp ser val ser leu thr cys ser thr thr gly
 TGT GAG TCC CCA TTT TTC TCT TGG AGA ACC CAG ATA GAT AGT CCA CTG AAT GGG AAG GTG
 cys glu ser pro phe phe ser trp arg thr gln ile asp ser pro leu asn gly lys val
 ACG AAT GAG GGG ACC ACA TCT ACG CTG ACA ATG AAT CCT GTT AGT TTT GGG AAC GAA CAC
 thr asn glu gly thr thr thr ser thr leu thr met asn pro val ser phe gly asn glu his
 TCT TAC CTG TGC ACA GCA ACT TGT GAA TCT AGG AAA TTG GAA AAA GGA ATC CAG GTG GAG
 ser tyr leu cys thr ala thr cys glu ser arg lys leu glu lys gly ile gln val glu
 ATC TAC TCT TTT CCT AAG GAT CCA GAG ATT CAT TTG AGT GGC CCT CTG GAG GCT GGG AAG
 ile tyr ser phe pro lys asp pro glu ile his leu ser gly pro leu glu ala gly lys
 CCG ATC ACA GTC AAG TGT TCA GTT GCT GAT GTA TAC CCA TTT GAC AGG CTG GAG ATA GAC
 pro ile thr val lys cys ser val ala asp val tyr pro phe asp arg leu glu ile asp
 TTA CTG AAA GGA GAT CAT CTC ATG AAG AGT CAG GAA TTT CTG GAG GAT GCA GAC AGG AAG
 leu leu lys gly asp his leu met lys ser gln glu phe leu glu asp ala asp arg lys
 TCC CTG GAA ACC AAG AGT TTG GAA GTA ACC TTT ACT CCT GTC ATT CAG GAT ATT GGA AAA
 ser leu glu thr lys ser leu glu val thr phe thr pro val ile glu asp ile gly lys
 GTT CTT GTT TGC CGA GGT AAA TTA CAC ATT GAT GAA ATG GAT TCT GTG CCC ACA GTA AGG
 val leu val cys arg ala lys leu his ile asp glu met asp ser val pro thr val arg

CAG GGT GTA AAA GAA TTG CAA GTC TAC ATA TCA CCC AAG AAT ACA GTT ATT TCT CTG AAT
gln ala val lys glu leu gln val tyr ile ser pro lys asn thr val ile ser val asn
CCA TCC ACA AAG CTG CAA GAA GGT CGC TCT CTG ACC ATG ACC TGT TCC AGC GAG GGT CTA
pro ser thr lys leu gln glu gly gly ser val thr met thr cys ser ser glu gly leu
CCA GGT CCA GAT AAT TTC TGG ACT AAG AAA TTA GAT AAT GGG AAT CTA CAG CTT TCT
pro ala pro gln ile phe trp ser lys lys leu asp asn gly asn leu gln his leu ser
CGA AAT GCA ACT CTC ACC TTA ATT GCT ATG AGG ATG GAA GAT TCT GGA ATT TAT GTG TGT
gly asn ala thr leu thr leu ile ala met arg met glu asp ser gly ile tyr val cys
GAA GGA GGT AAT TTG AAT GGG AAA AAC AGA AAA GAG GTG GAA TTA ATT GTT CAA GCA TTC
glu gly val asn leu ile gly lys asn arg lys glu val glu leu ile val gln ala phe
CCT AGA CAT CCA GAA ATC GAG ATG ACT GGT GGC CTC GTG AAT GGG AGC TCT GTC ACT CTA
pro arg asp pro glu ile glu met ser gly gly leu val asn gly ser ser val thr val
AGC TGC AAG GTT CCT AGC CTC TAC CCC CTT GAC CCG CTG GAG ATT GAA TTA CTT AAG GGG
ser cys lys val pro ser val tyr pro leu asp arg leu glu ile glu leu leu lys gly
GAG ACT AAT CTC CAG AAT ATA GAG TTT TTG GAG GAT ACG GAT ATG AAA TCT CTA GAG AAC
glu thr ile leu glu asn ile glu phe leu glu asp thr asp met lys ser leu glu asn
AAA AGT TTG CAA ATG ACC TTC ATC CCT ACC ATT GAA GAT ACT GGA AAA GCT CTT GTT TGT
lys ser leu glu met thr phe ile pro thr ile glu asp thr gly lys ala leu val cys
GAC GCT AAG TTA CAT AAT ATT GAT GAC ATG GAA TTC GAA CCC AAA CAA AGG CAG ACT ACG CAA
gln ala lys leu his ile asp met glu phe glu pro lys gln arg gln ser thr gln
ACA CTT TAT GTC AAT GTF GGC CCC AGA GAT ACA ACC CTC TTG GTC AGC CCT TCC TCC ATC
thr leu cys val asn val ala pro arg asp thr thr val leu val ser pro ser ser ile
CTG GAG GAA GGT ACT TTT GAT AAT AAG AAA TGC TTG AGC GAG GGC TTT CCT GGT CCG AAA
leu glu glu gly ser ser val asn met thr cys leu ser gln gly phe pro ala pro lys

ATC CTG TGG AGC AGG CAG CTC CCT AAC GGG GAG CTA CAG CCT CTT TCT GAG AAT GCA ACT
 ile leu trp ser arg gln leu pro asn gly glu leu gln pro leu ser glu asn ala thr

 CTC ACC TTA ATT TCT ACA AAA ATG GAA GAT TCT GGG GTT TAT TTA TGT GAA GGA ATT AAC
 leu thr leu ile ser thr lys met glu asp ser gly val tyr leu cys glu gly ile asn

 CAG GGT GGA AGA AGC AGA AAG GAA GTG GAA TTA ATT ATC CAA GTT ACT CCA AAA GAC ATA
 gln ala gly arg ser arg lys lys glu val qiu leu ile ile gln val thr pro lys asp ile

 AAA CTT ACA GGT TTT CTT TCT GAG AGT GTC AAA GAA GAC AAC ACT GTC ATC TCT TGT
 lys leu thr ala phe pro ser glu ser val lys glu gly asp thr val ile ile ser cys

 ACA TGT GGA AAT GTT CCA GAA ACA TGG ATA ATC CTC AAG AAA GCG GAG ACA GGA GAC
 thr cys gly asn val pro glu thr trp ile ile leu lys lys ala glu thr thr gly asp

 ACA GTA CTA AAA TCT ATA GAT GGC GGC TAT ACC ATC CGA AAG GCC CAG TTG AAG GAT GCG
 thr val leu lys ser ile asp gly ala tyr thr ile arg lys ala gln leu lys asp ala

 GGA GTA TAT GAA TGT GAA TCT AAA AAC AAC GTT GGC TCA CAA TTA AGA AGT TTA ACA CTT
 gly val tyr glu cys glu ser lys asn lys val gly val gly ser gln leu arg ser leu thr leu

 GAT GTT CAA GGA AGA GAA AAC AAC AAA GAC TAT TTT TCT CCT GAG CTT CTC CTC TAT
 asp val gln gly arg glu asn asn lys asp tyr phe ser pro glu leu val leu tyr

 TTT GCA TCC TCC TTA ATA ATA CCF GCC ATT GGA ATG ATA ATT TAC TTT GCA AGA AAA GCC
 phe ala ser ser leu ile ile pro ala ile gly met ile ile tyr phe ala arg lys ala

 AAC APT AAG GGC TCA TAT AGT CTT GTA GAA GCA CAG AAA TCA AAA GTG TAG CTAATGCTTG
 asn met lys gly ser tyr ser leu val glu ala gln lys ser lys val ***

ATATCTTTCA CTGGAAACAC TATTTATCTG TGCANATCTT TCATCTCT CATCATTCCT TGAGAAAAAC AAT

GAGCTTA GAGGAGACT TCCCTGAAATG TATTTGAATTT GGAAAGAAAT GCCATCTAT GTCCCTTGCT GTGAGC

AAGA AGTCAAAGTA AAACCTTGCTG CCTGAGAGAC ACTAACTGCC ACCAAGATGA GAGAACTGGA GGAGTTCTCT

T GATCTCTATA TACAAATACA TAAATTGAC AATGATATA CCATAGCAAG ATTCCTTAAAA

TAGGACAC TCTATATTTA GATTGTTAAA ATAACTAGTG TTGCTTGGAC TATTATAATT TAATGCATGT TAGG
AAATTT TCACATTAAAT ATTTGGCTGAC AGCTGACCTT TGTCACTCTTT CTTCATATTTT ATTCCTCTTC ACAAAAT
TTT ATTCCTATAT AGTTTATTTGA CATAAATTC AGGTTTGTGA AAGATGCCCG GTTTTATATTT TTTATAGACA
AATATAATG AAGGAGAGCA CTGGCTTGAC TTTCAGGTAC TAATACCTC AACCTATGCT ATATGGGTG AC
TGGGTTTC TCTGTATAGI ACTGGCTGG TACGGAGATG TTTCAGSAAAG TTGTTCTATC AGACTCCTGT GCAAC
TTTCC CAATGTGGCC TAAAAATGCA ACTTCTTTT ATTTCTTTT GTAAATGTTT AGGTTTTTTT GTATAGTA
AA GTATAATTT CTGGAAATTAA AAA

FIG. 3D

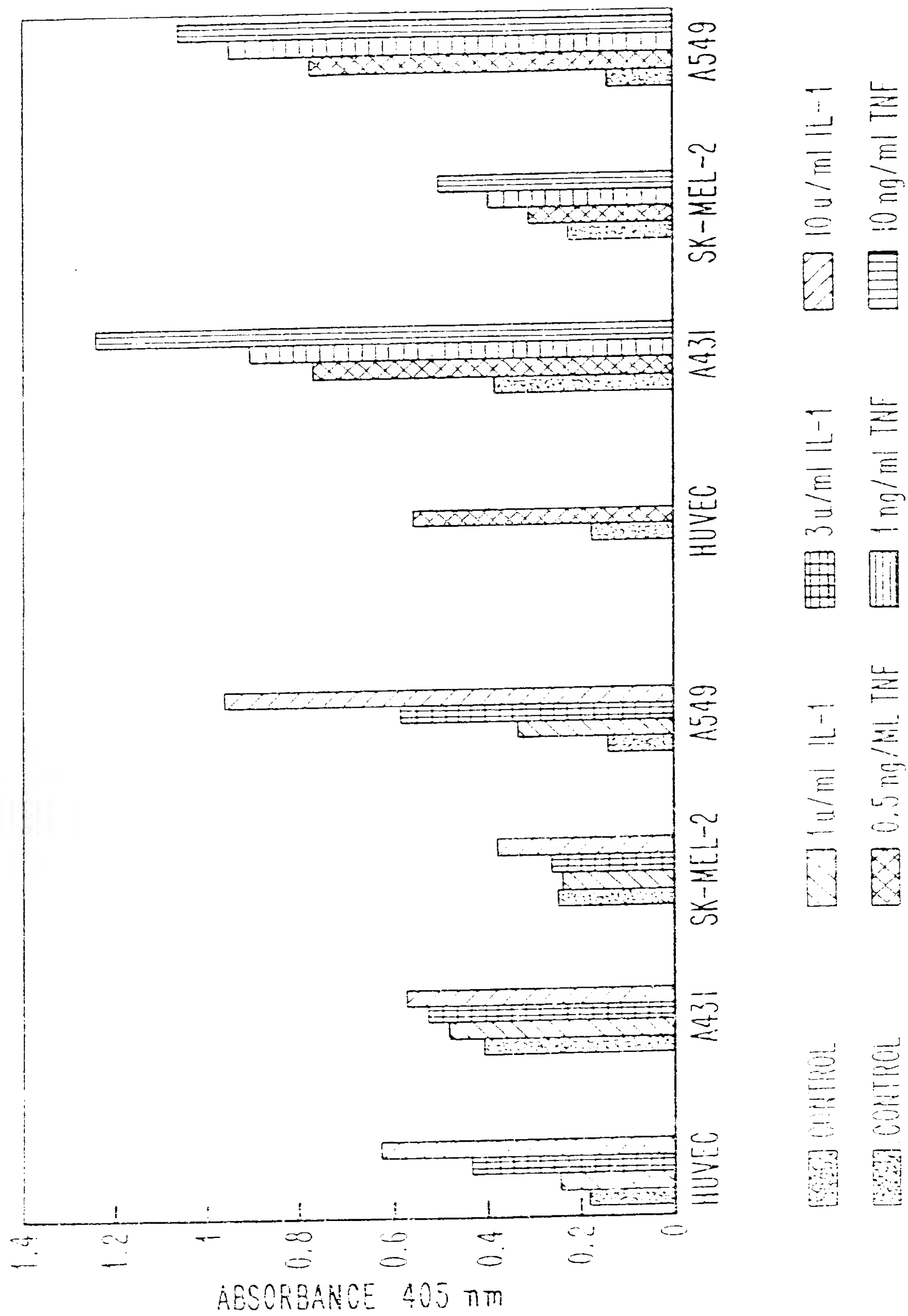


FIG. 4

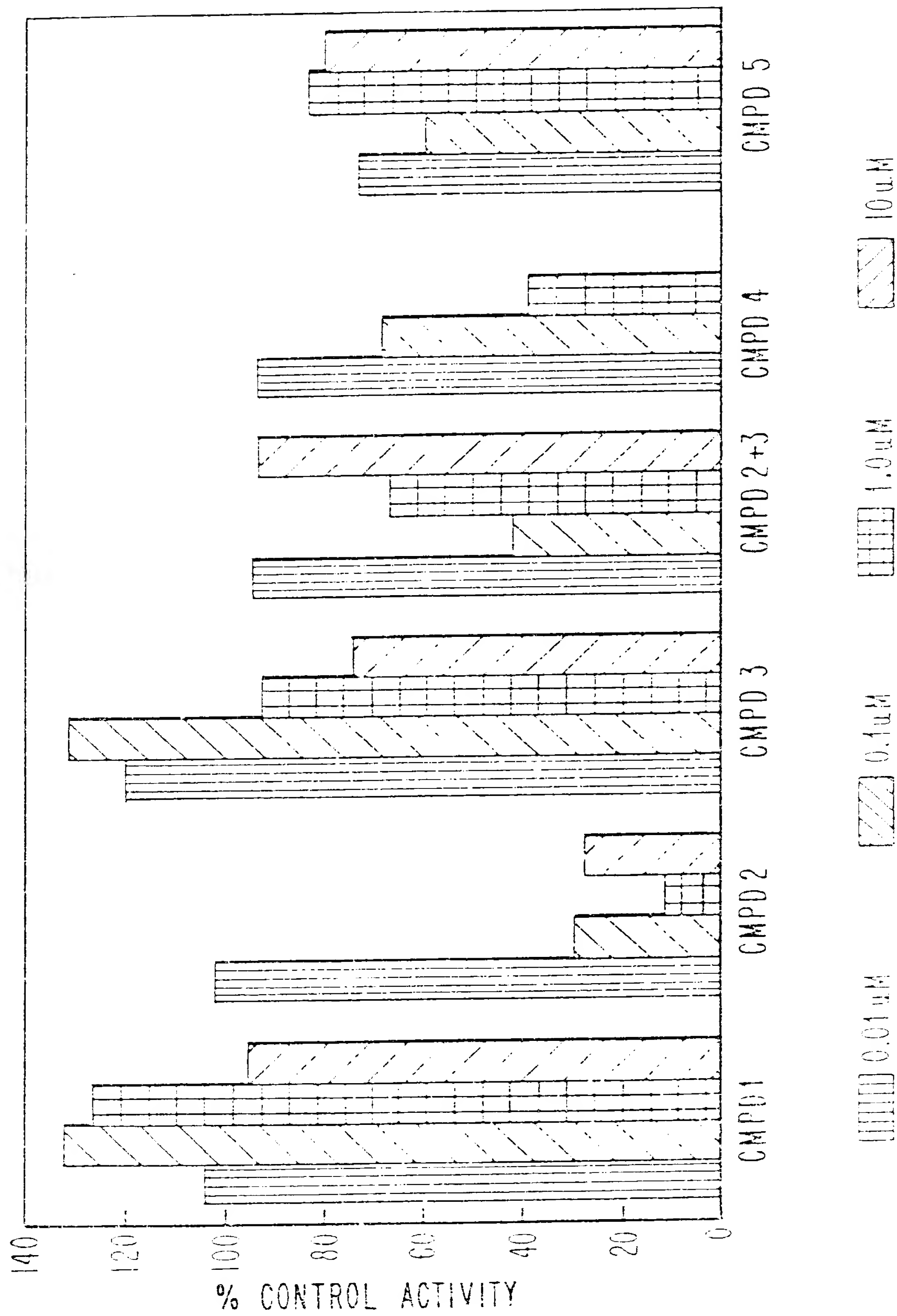


FIG. 5

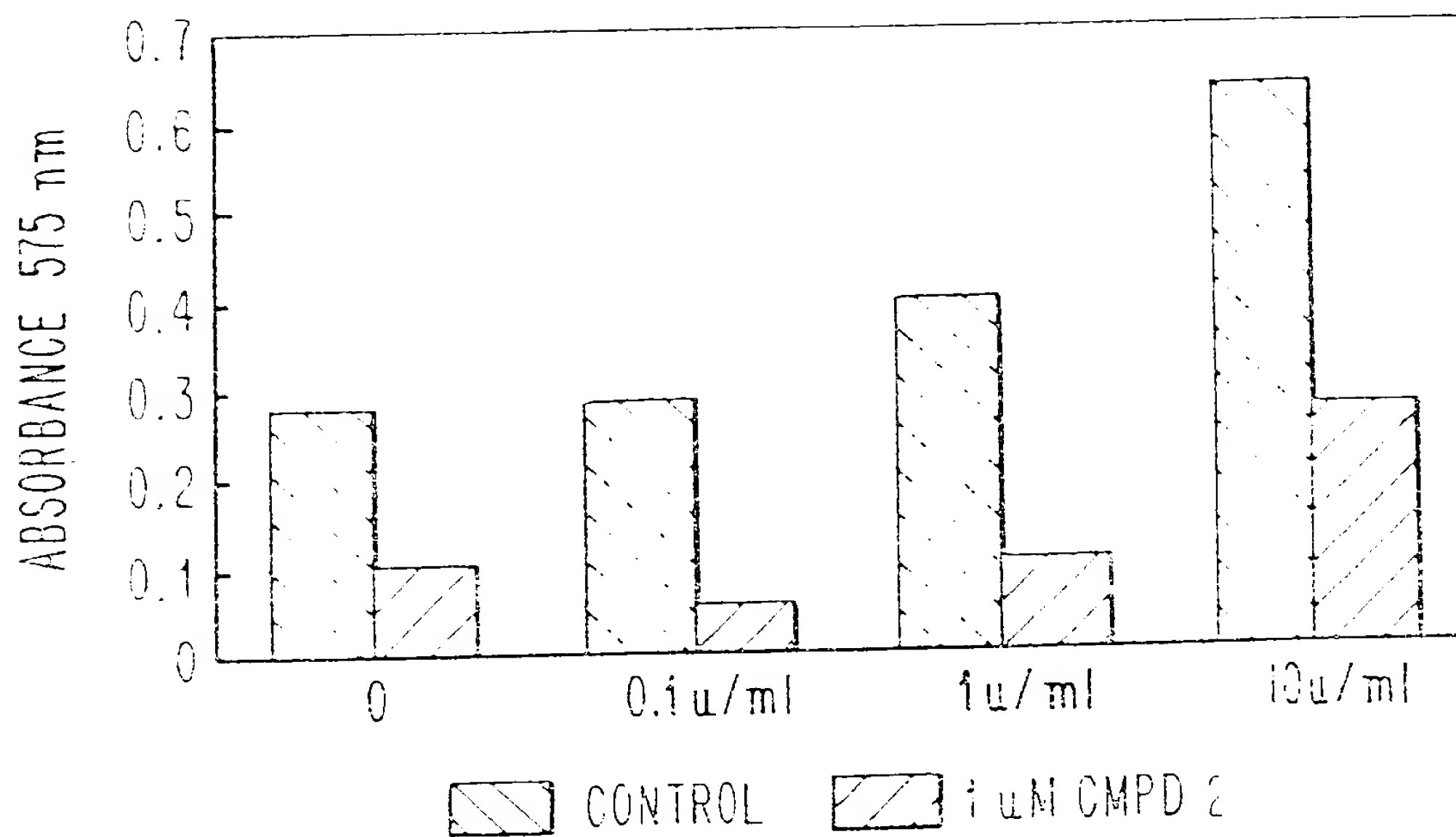


FIG. 6A

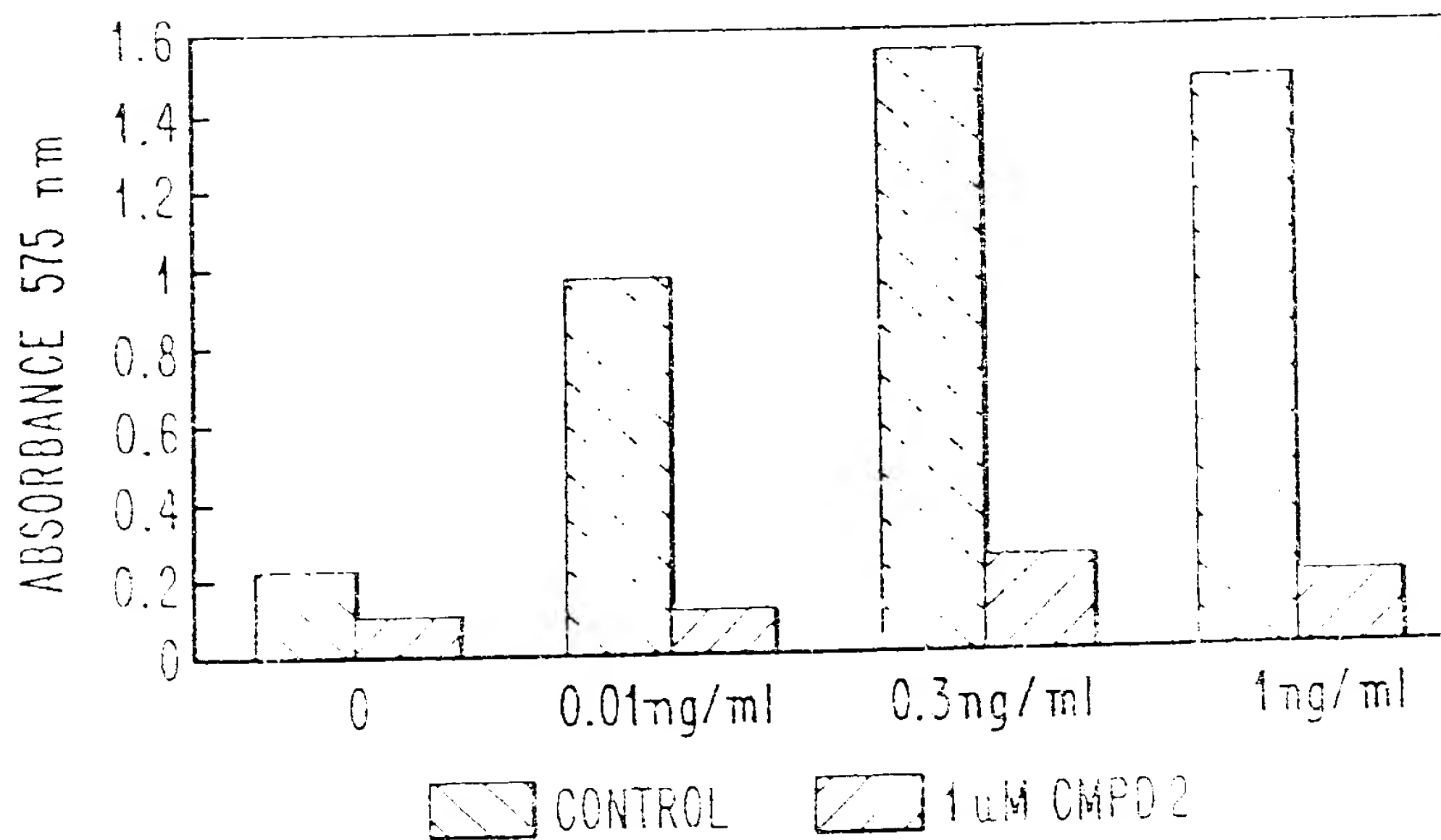


FIG. 6B

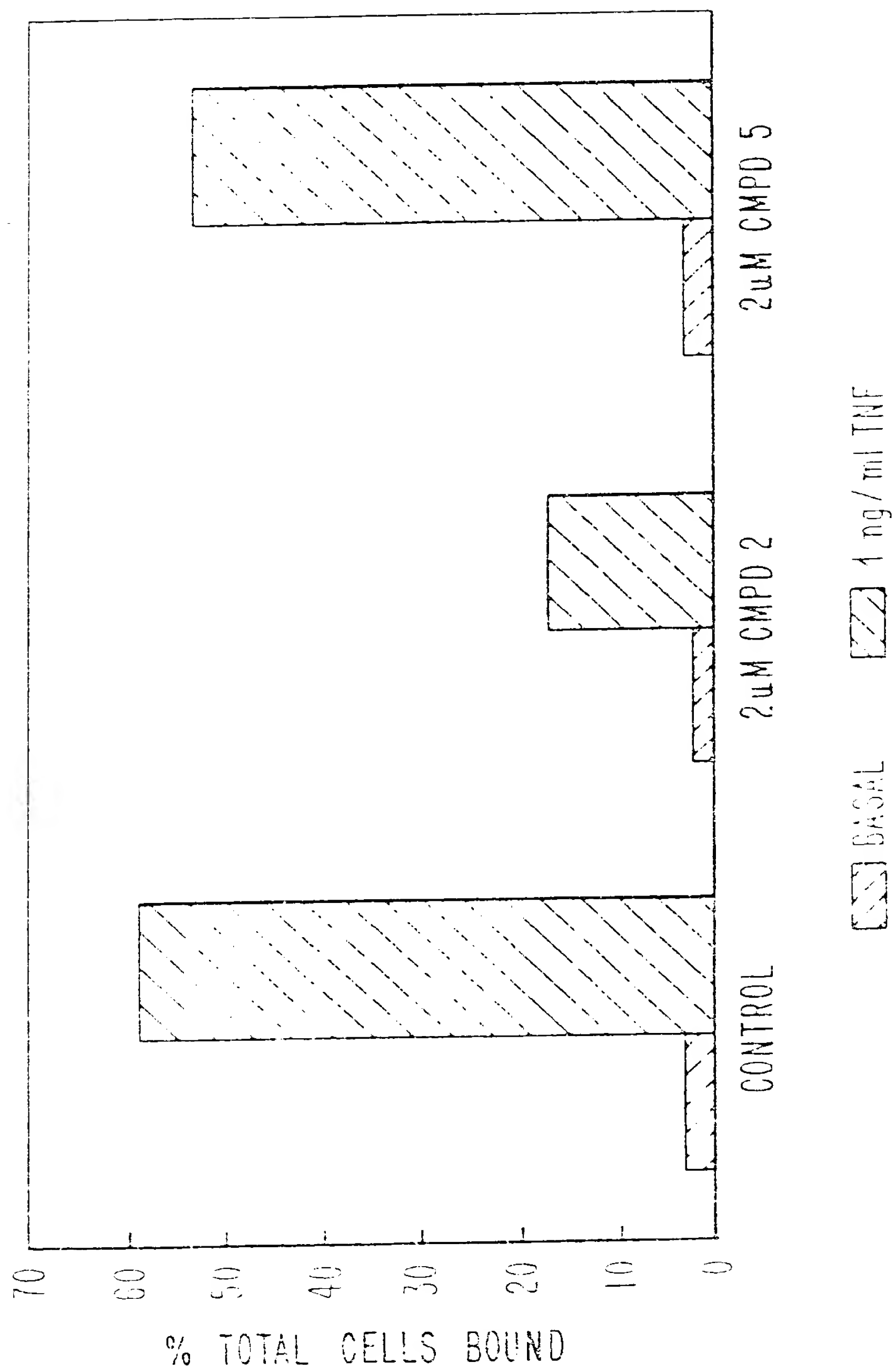
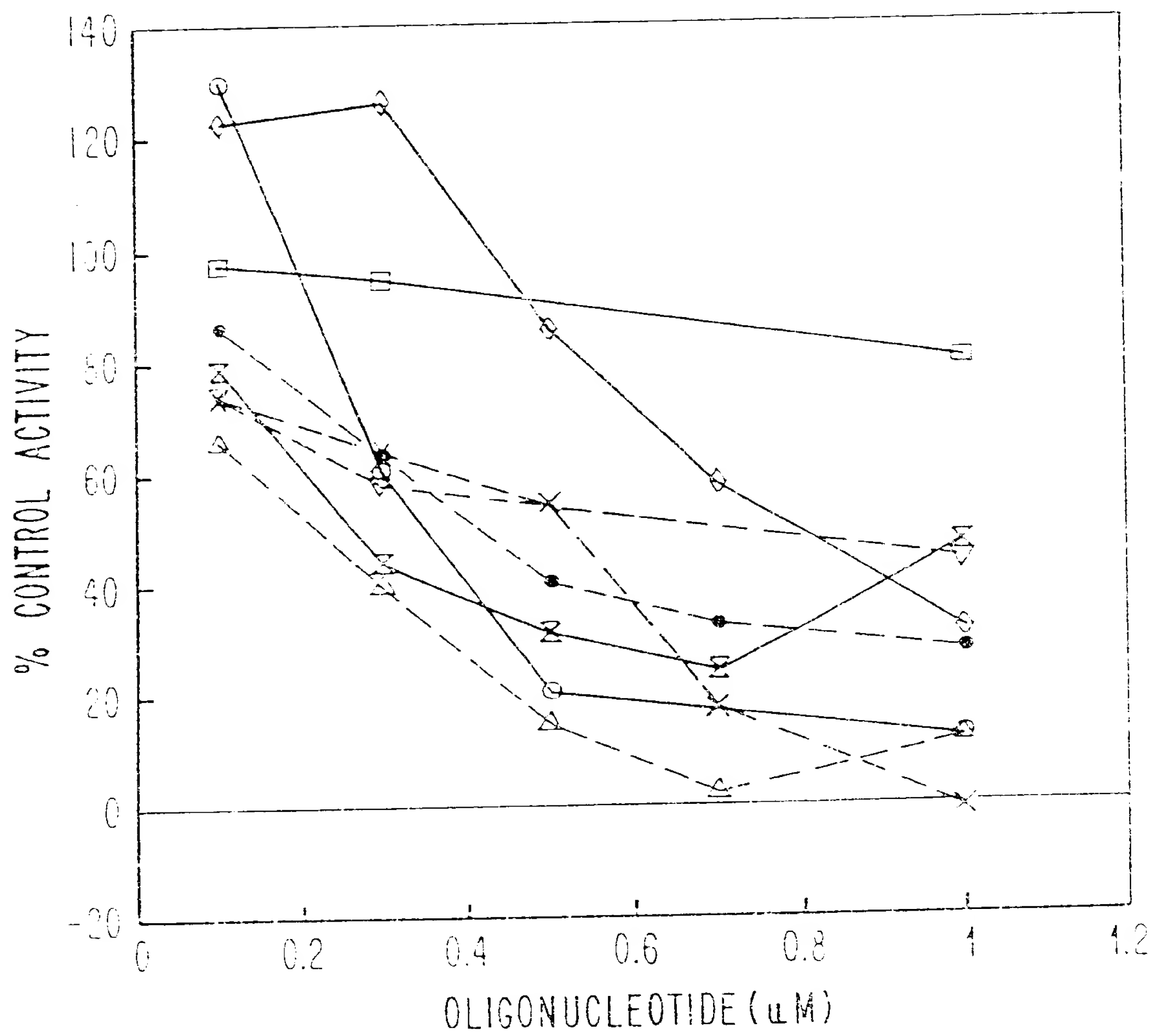
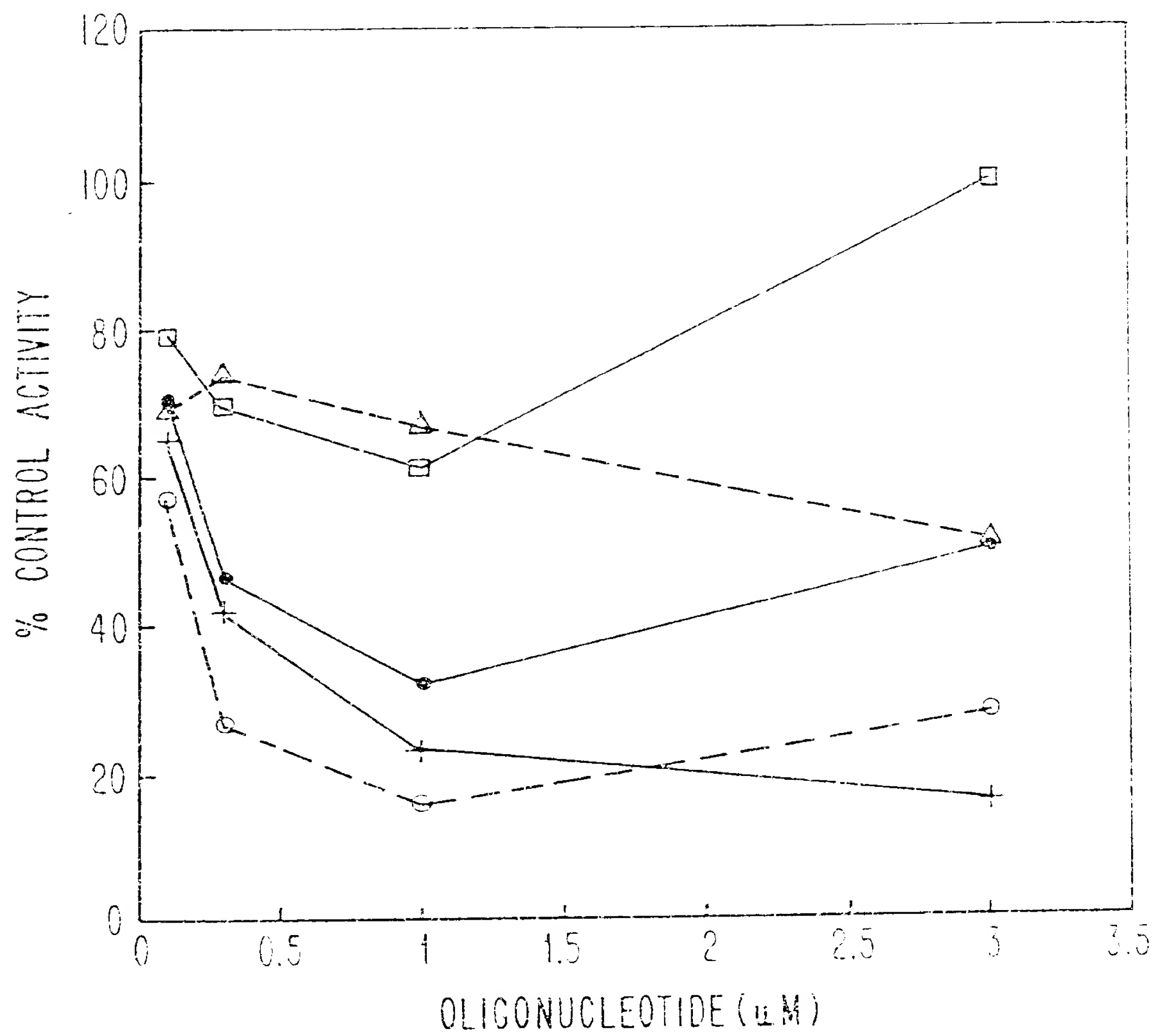


FIG. 7



● 1570 ○ 3067 ▽ 1931 □ 1932
 × 1939 ◇ 2507 △ 2502 ⊠ 1938

FIG. 8



• 1570

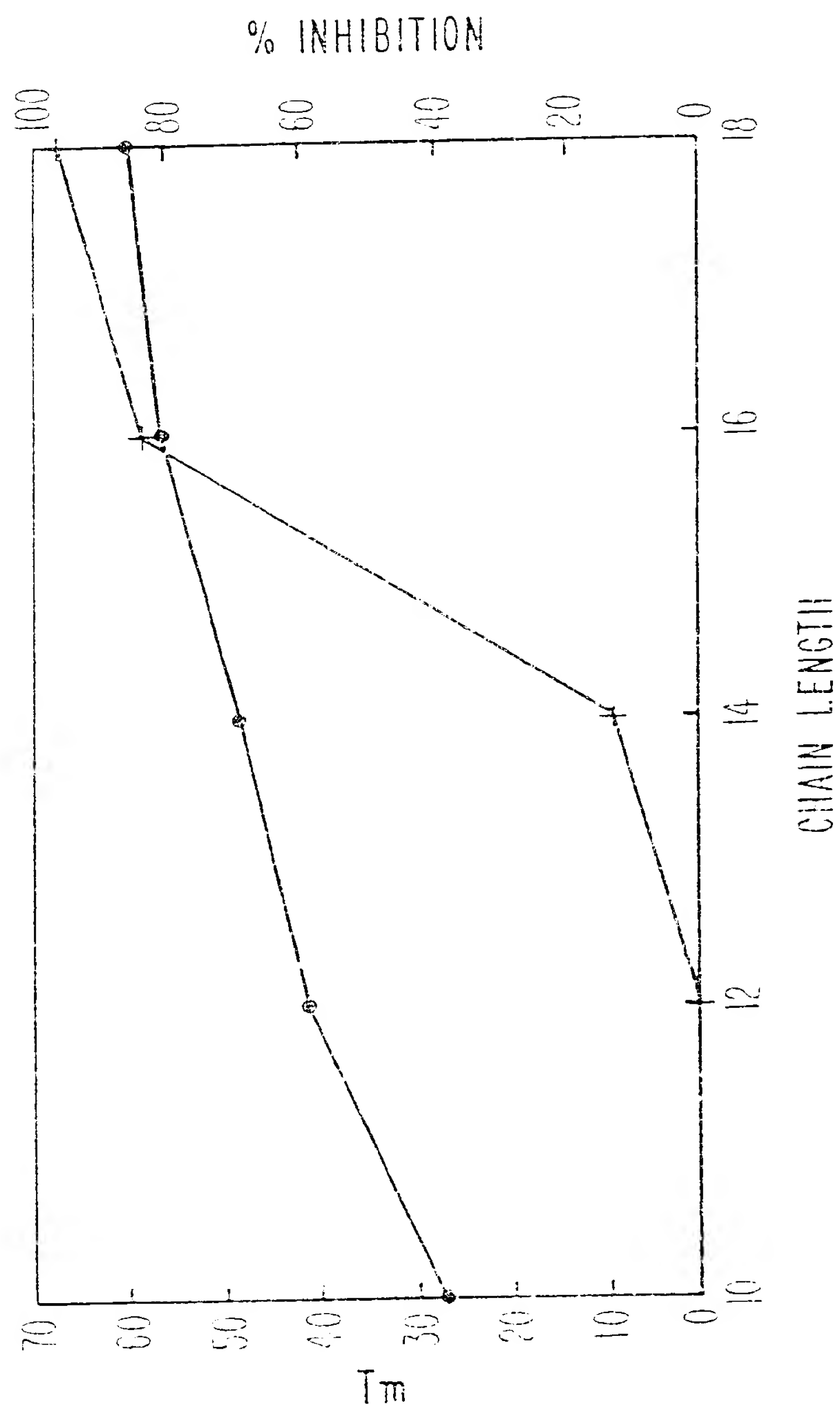
+ 1939

Δ 1940

\square 1821

\circ 2302

FIG. 9



• T_m + % INHIBITION

100 nM OLIGONUCLEOTIDE

FIG. 10

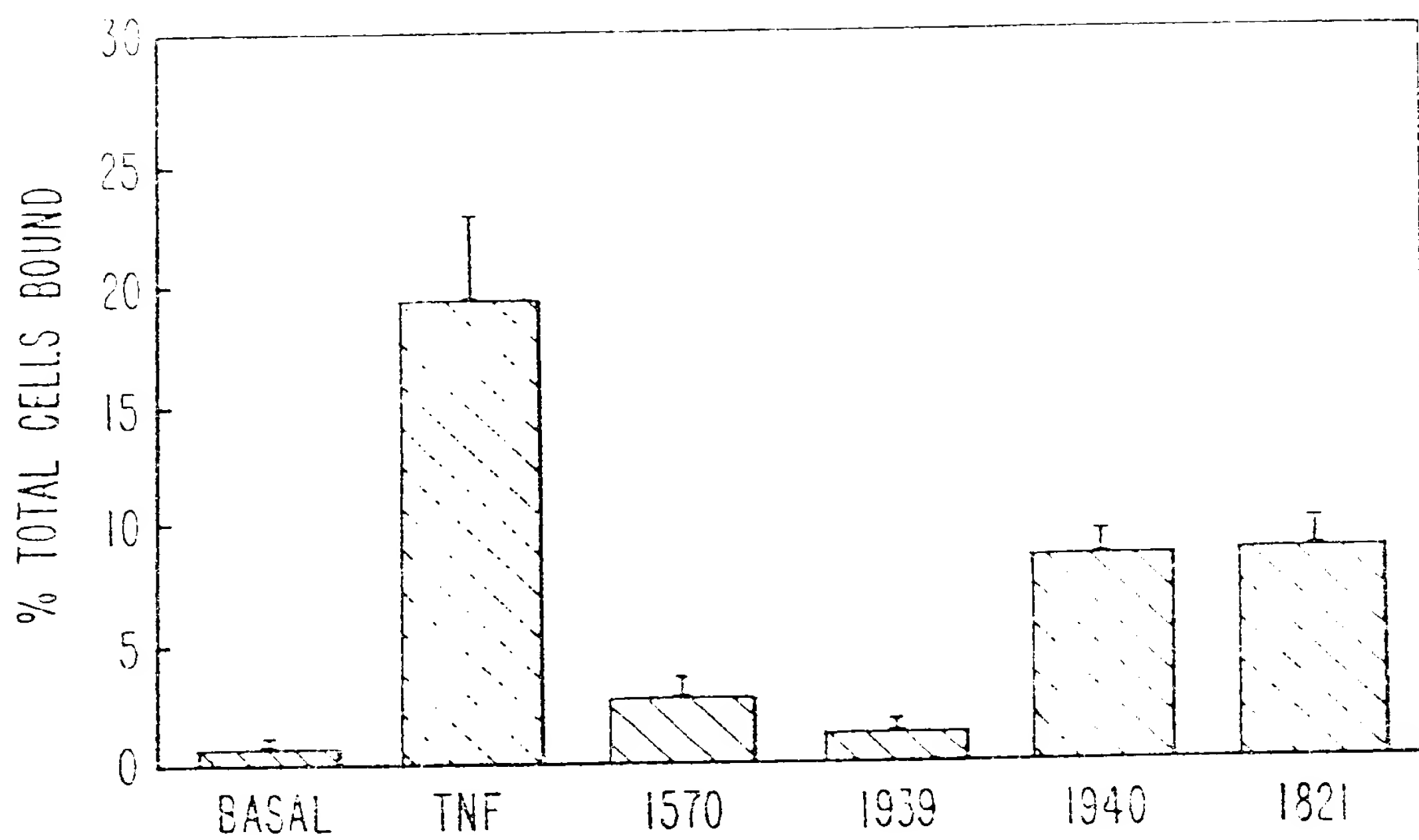
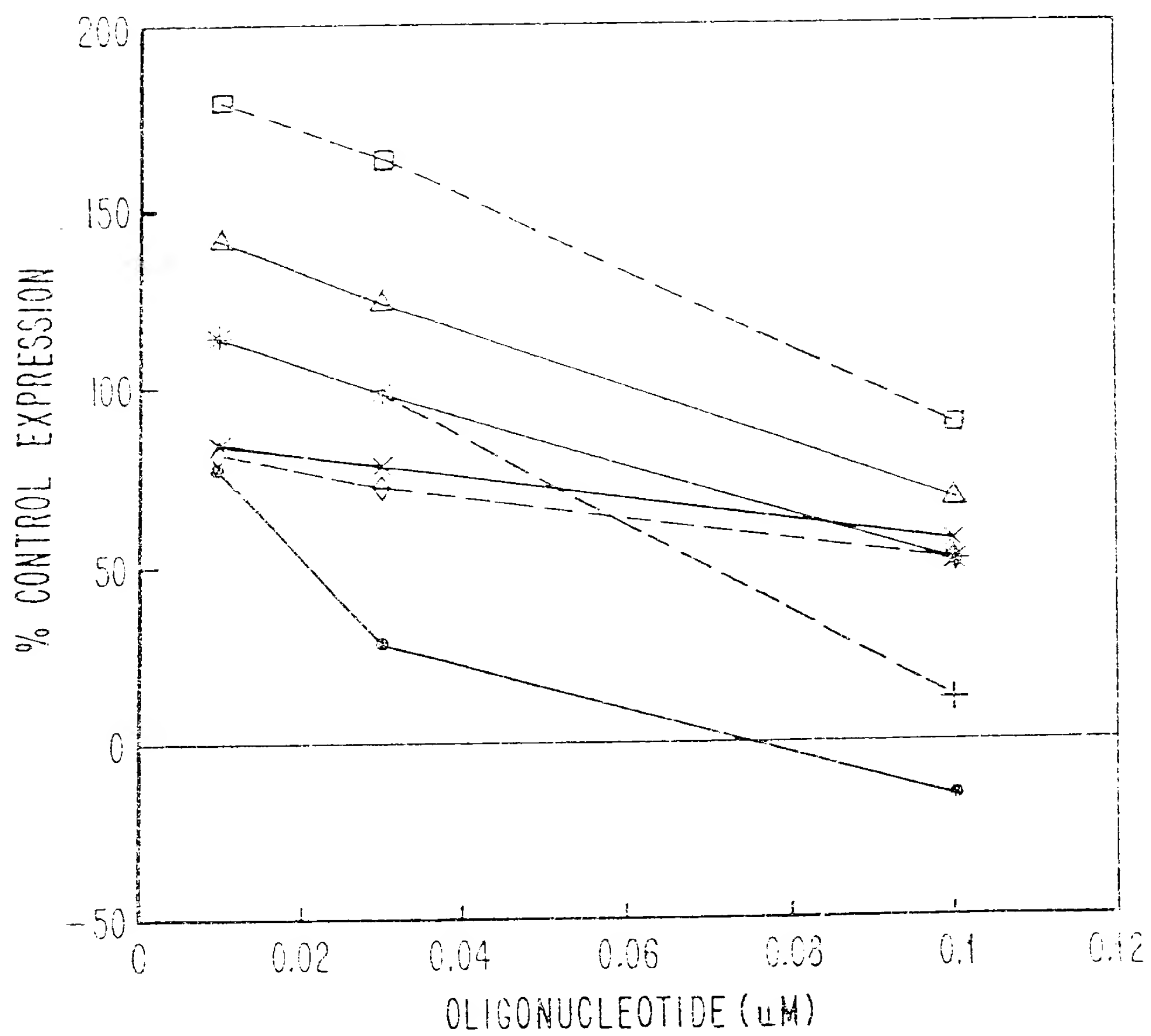


FIG. 11



● 2679

+ 2674

* 2673

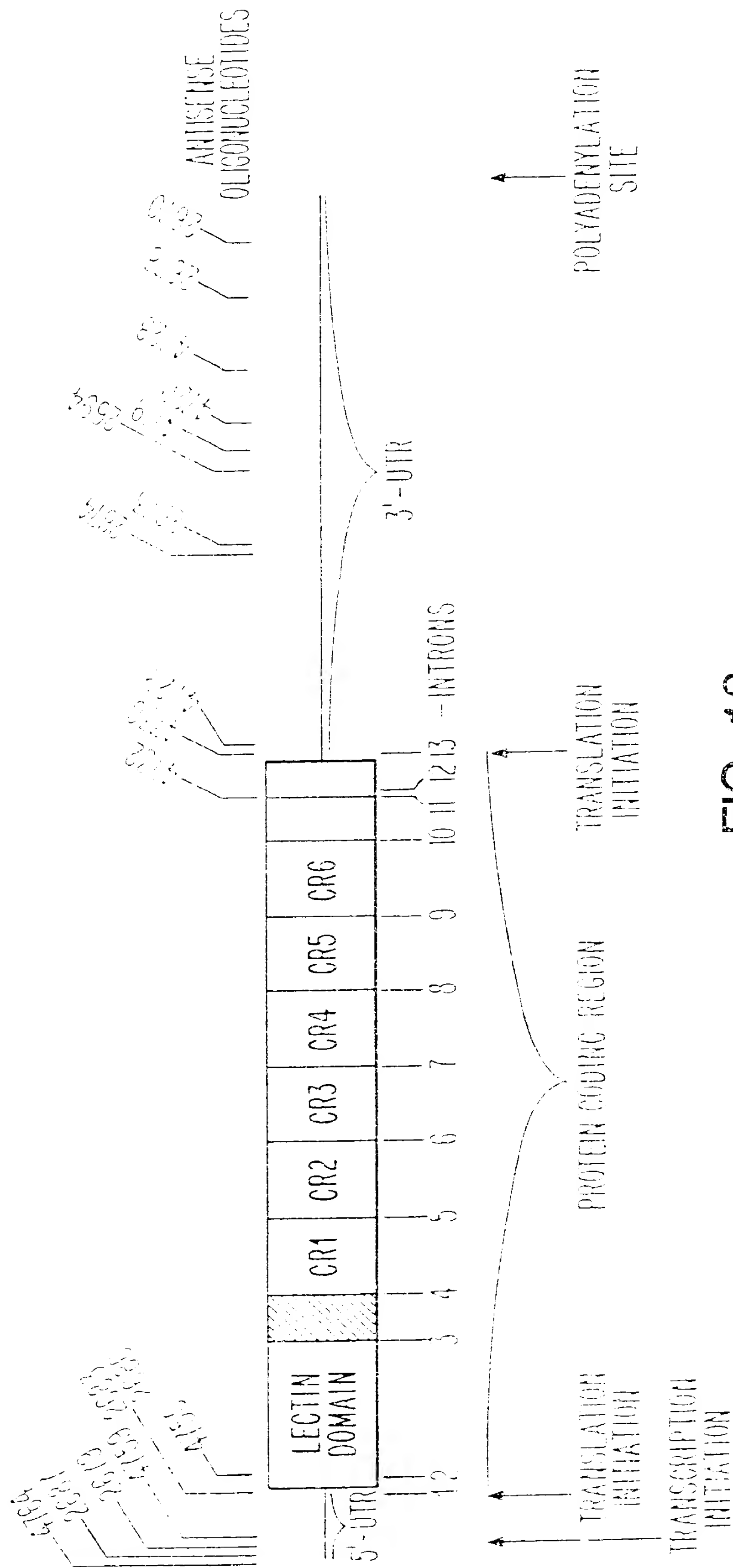
□ 2687

× 2686

◇ 2683

△ 1571 (ICAM-1)

FIG. 12



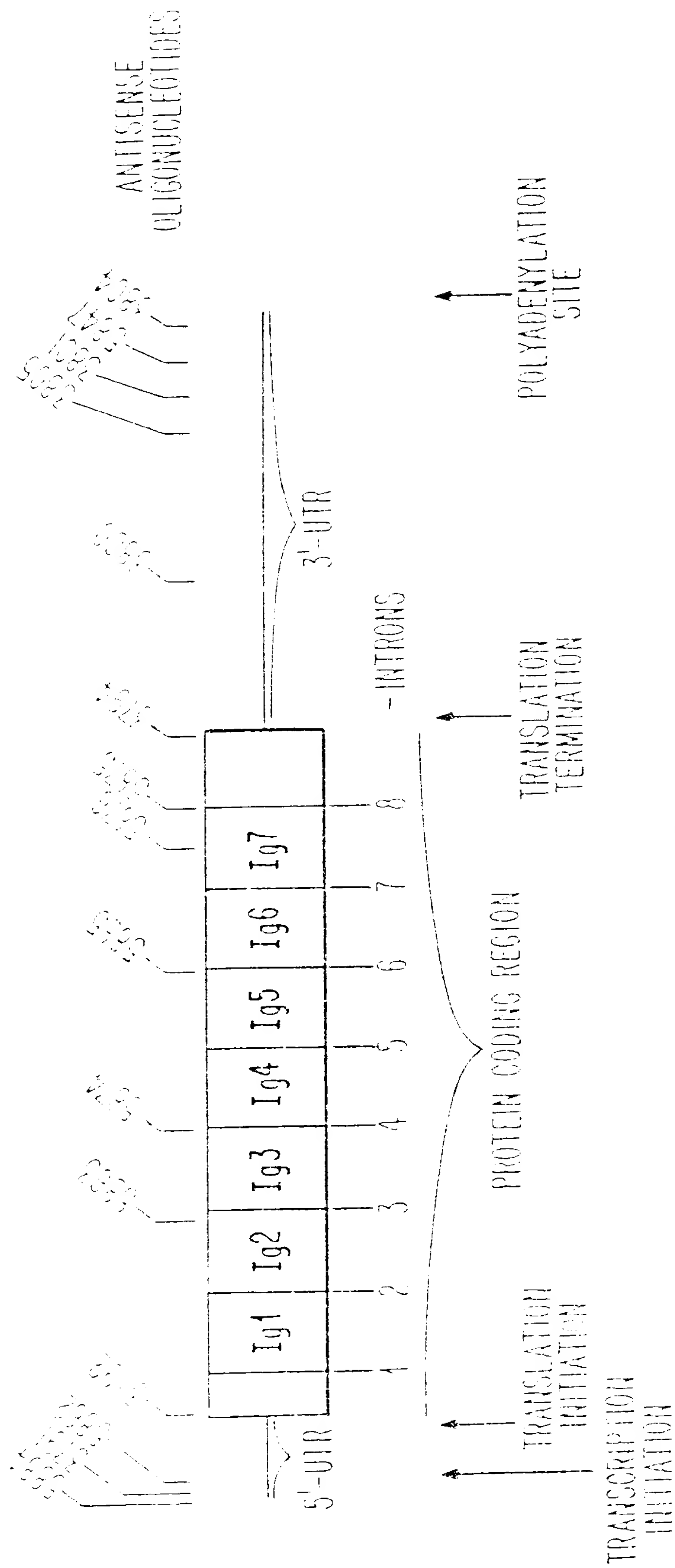


FIG. 14

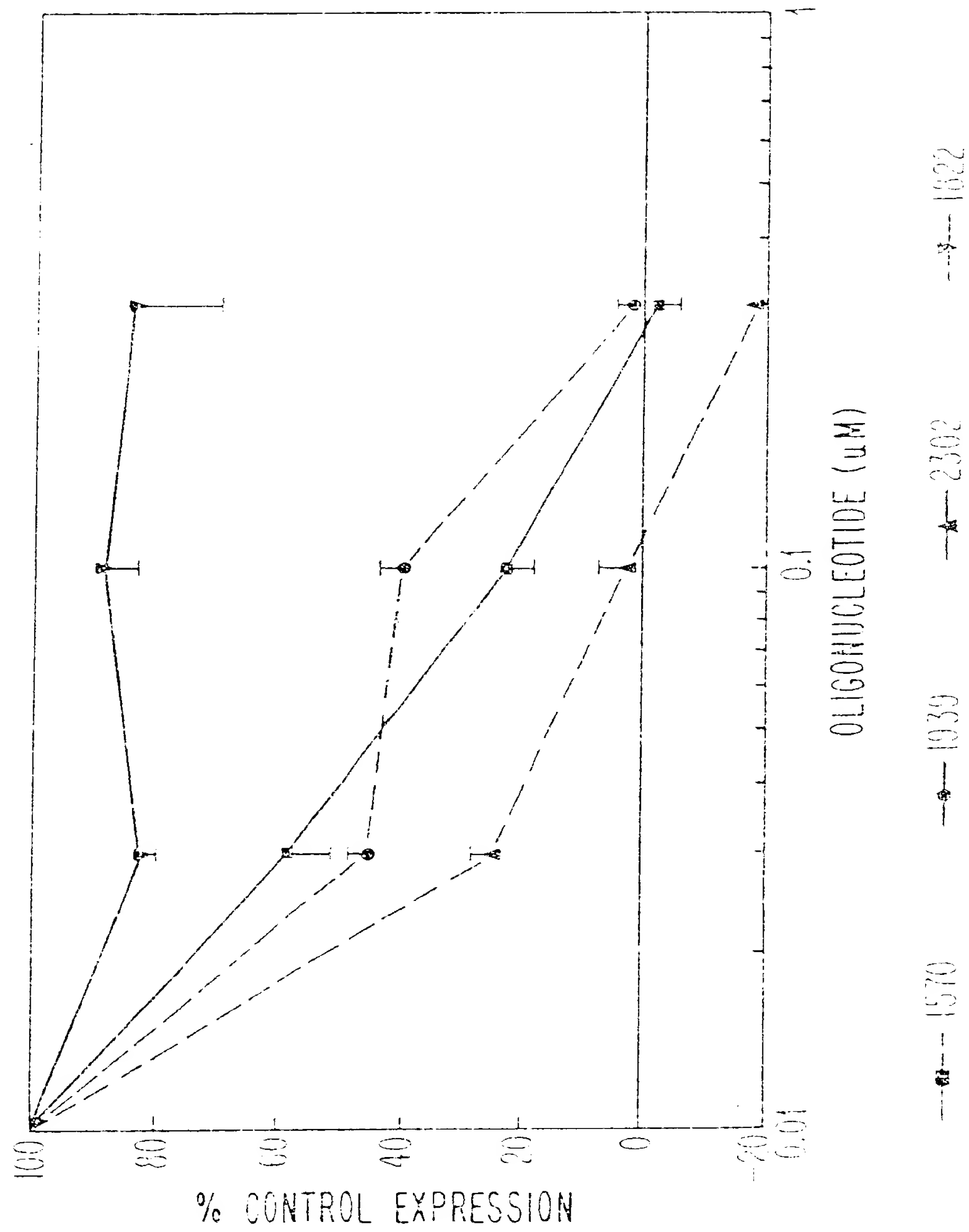


FIG. 15

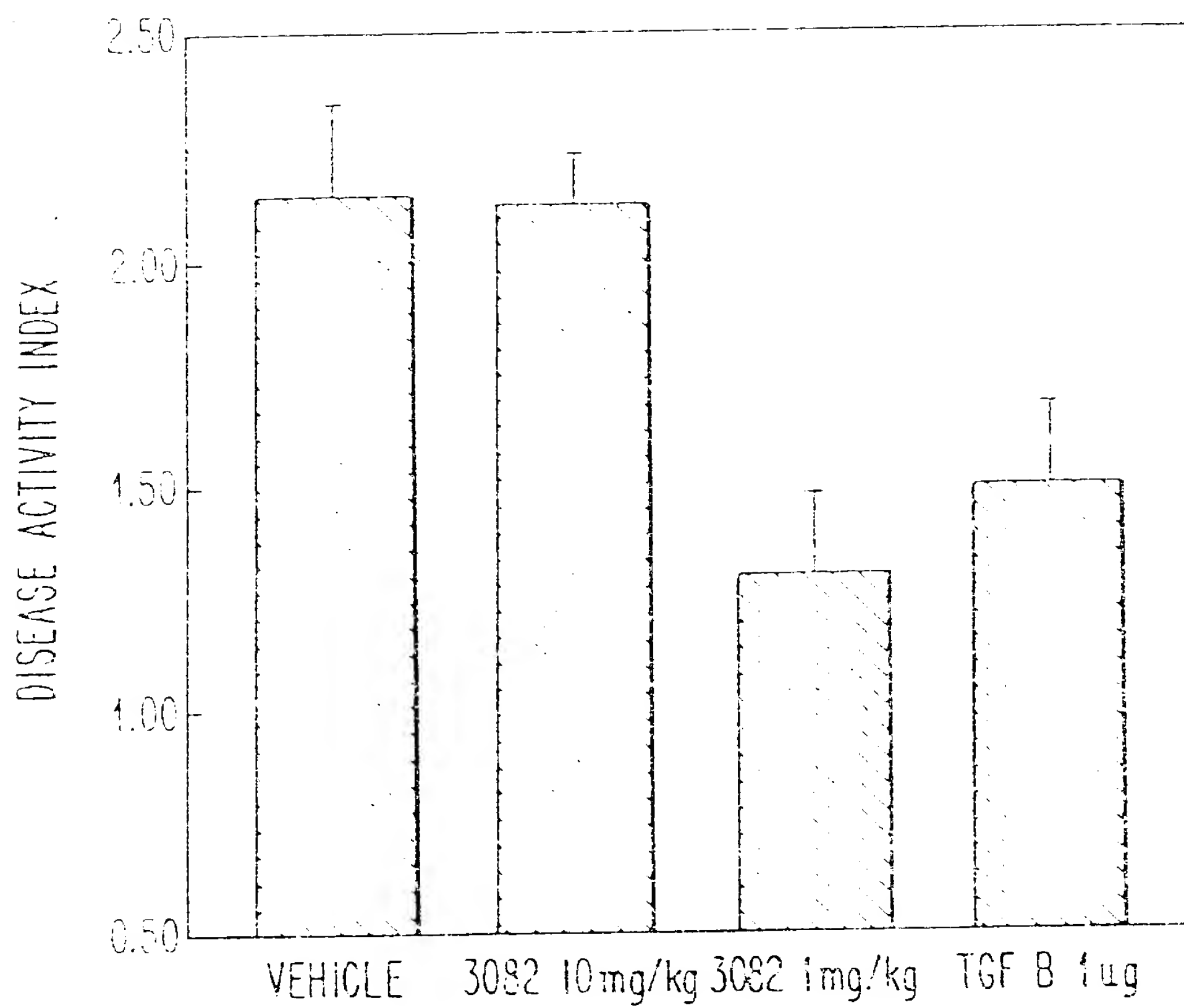


FIG. 16